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PATENT

Attorney Reference Number 4239-55593
Application Number 09/622,686

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-25 (Canceled)

Claim 26 (Currently amended): An apparatus for preparing specimens for parallel analysis of sections of biological material arrays, comprising:

a donor block holder for holding a tissue donor block in a donor position; and

a first reciprocating punch positioned in relation to the holder to punch a tissue specimen from the tissue donor block when the donor block is in the donor position;

a recipient block holder for holding a recipient block in a recipient position, wherein the recipient block comprises an array of receptacles, each of which is positionable in a preselected position in relation to the first reciprocating punch to deliver a tissue specimen from the first reciprocating punch into a receptacle in the preselected position; and

a second reciprocating punch capable of being positioned relative to the recipient block for punching the array of receptacles in the recipient block, wherein the second reciprocating punch is different than the first reciprocating punch positioned to punch the specimen from the tissue donor block; and

a positioner for positioning over the donor block a reference slide that includes at least one structure of interest, to align the at least one structure of interest in the reference slide with corresponding tissue specimen regions in the donor block.

Claim 27 (Previously presented): The apparatus of claim 26, wherein the recipient block holder comprises an x-y positioning device that can be incrementally moved to align sequential receptacles and the reciprocating punch.

Claim 28 (Previously presented): The apparatus of claim 26, further comprising a stylet positioned for introduction into the reciprocating punch to expel the tissue specimen from the punch into one of the receptacles aligned with the punch.

Claims 29-30 (Canceled)

Claim 31 (Currently amended): An apparatus for preparing specimens for parallel analysis of sections of biological material arrays, comprising:

a donor block holder for holding a tissue donor block in a donor position; and

a first reciprocating punch positioned in relation to the holder to punch a tissue specimen from the tissue donor block when the donor block is in the donor position; and

a recipient block holder for holding a recipient block in a recipient position, wherein the recipient block comprises an array of receptacles, each of which is positionable in a preselected position in relation to the first reciprocating punch to deliver a tissue specimen from the first reciprocating punch into a receptacle in the preselected position; and

a second reciprocating punch capable of being positioned relative to the recipient block for punching the array of receptacles in the recipient block, wherein the second reciprocating punch is different than the first reciprocating punch positioned to punch the specimen from the tissue donor block; and

a recorder for recording coordinate positions of the receptacles in the recipient block.

Claim 32 (Previously presented): The apparatus of claim 31, wherein the recorder is a computer implemented system for recording the positions of the receptacles, and recording an identification of the tissue specimen that is placed in each receptacle.

Claim 33 (Previously presented): The apparatus of claim 32 wherein the identification includes information about the biological material that is not obtained from analysis of sections of the biological material.

Claim 34 (Currently amended): An apparatus for preparing specimens for parallel analysis of sections of biological material arrays, comprising:

a donor block holder for holding a tissue donor block in a donor position; and

a first reciprocating punch positioned in relation to the holder to punch a tissue specimen from the tissue donor block when the donor block is in the donor position; and

a recipient block holder for holding a recipient block in a recipient position, wherein the recipient block comprises an array of receptacles, each of which is positionable in a preselected position in relation to the first reciprocating punch to deliver a tissue specimen from the first reciprocating punch into a receptacle in the preselected position; and

a second reciprocating punch capable of being positioned relative to the recipient block for punching the array of receptacles in the recipient block, wherein the second reciprocating punch is different than the first reciprocating punch positioned to punch the specimen from the tissue donor block; and

a sectioning device for sectioning the recipient block into sections that can be subjected to different analyses.

Claim 35 (Previously presented): The apparatus of claim 34, further comprising a recorder for recording results of the different analyses in association with information about the biological material that is not obtained from analysis of the sections themselves.

Claims 36-53 (Canceled)

Claim 54 (Currently amended): An apparatus for preparing specimens for parallel analysis of sections of biological material arrays, comprising:

a donor block holder for holding a tissue donor block in a donor position; and

a first reciprocating punch positioned in relation to the holder to punch a tissue specimen from the tissue donor block when the donor block is in the donor position; and

a recipient block holder for holding a recipient block in a recipient position, wherein the recipient block comprises an array of receptacles, each of which is positionable in a preselected position in relation to the first reciprocating punch to deliver a tissue specimen from the first reciprocating punch into a receptacle in the preselected position; and

a second reciprocating punch capable of being positioned relative to the recipient block for punching the array of receptacles in the recipient block, wherein the second reciprocating

punch is different than the first reciprocating punch positioned to punch the specimen from the tissue donor block; and

a reference slide positioner that includes at least one slide that extends between opposing walls of the donor block holder.

Claim 55 (Previously presented): A device for preparing biological material arrays, comprising:

a platform that includes at least one guide for positioning a tissue donor block holder or a recipient block holder; and

a punch apparatus that includes a guide surface, a punch base slidably mounted on the guide surface, and a punch received within the punch base that can be aligned with the tissue block holder or the recipient block holder; and

a reference slide positioner interposed between the platform and the punch apparatus.

Claim 56 (Previously presented): The device of claim 55, further comprising means for sliding the punch base.

Claims 57-58 (Canceled)

Claim 59 (Currently amended): An integrated apparatus for preparing specimens for parallel analysis of sections of biological material arrays, comprising:

a donor block holder that can hold a tissue donor block in a donor position;

a first reciprocal punch positioned in relation to the donor block holder that can punch a tissue specimen from the tissue donor block when the donor block is in the donor position;

a recipient block holder that can hold a recipient block in a recipient position, wherein the recipient block comprises an array or receptacles, each of which is positionable in a preselected position in relation to the first reciprocal punch to deliver a tissue specimen from the first reciprocal punch into a receptacle in the preselected position; and

a second reciprocal punch capable of being positioned relative to the recipient block for punching the array of receptacles in the recipient block, wherein the second reciprocal punch is

different than the first reciprocal punch positioned to punch the specimen from the tissue donor block; and

a positioner that can position over the donor block a reference slide that includes at least one structure of interest, to align the at least one structure of interest in the reference slide with corresponding tissue specimen regions in the donor block.

Claims 60-61 (Canceled)

Claim 62 (Currently amended): The apparatus of claim ~~30~~ 31, wherein the diameter of the first reciprocating punch positioned to punch the specimen from the tissue donor block is greater than the diameter of the second reciprocating punch.

Claim 63 (Currently amended): The apparatus of claim ~~61~~ 34, wherein the diameter of the ~~reciprocal~~ first reciprocating punch positioned to punch the specimen from the tissue donor block is greater than the diameter of the second reciprocal punch.

Claims 64-65 (Canceled)

Claim 66 (Currently amended): The apparatus of claim 59, further comprising z-direction positioning means for the first reciprocal punch and the second reciprocal punch.

Claims 67-68 (Canceled)

Claim 69 (Currently amended): The apparatus of claim ~~67~~ 26, wherein the diameter of the first reciprocating punch positioned to punch the specimen from the tissue donor block is greater than the diameter of the second reciprocating punch.

Claim 70 (Currently amended): The apparatus of claim ~~68~~ 59, wherein the diameter of the first reciprocating punch positioned to punch the specimen from the tissue donor block is greater than the diameter of the second reciprocating punch.

Claim 71 (Previously presented): The apparatus of claim 26, further comprising a microscope configured for observing the reference slide.

Claim 72 (New): An apparatus for preparing specimens for parallel analysis of sections of biological material arrays, comprising:

an x-y positioning platform;

a donor block holder for holding a tissue donor block in a donor position, the donor block holder being disposed on the x-y positioning platform;

a reciprocating punch positioned in relation to the donor block holder to punch a tissue specimen from the tissue donor block when the donor block is in the donor position;

a recipient block holder for holding a recipient block in a recipient position, wherein the recipient block comprises an array of receptacles, each of which is positionable in a preselected position in relation to the reciprocating punch to deliver a tissue specimen from the reciprocating punch into a receptacle in the preselected position, the recipient block holder being disposed on the x-y positioning platform;

a sectioning device for sectioning the recipient block into sections that can be subjected to different analyses; and

z-direction positioning means for the reciprocating punch.

Claim 73 (New): An apparatus for preparing specimens for parallel analysis of sections of biological material arrays, comprising:

an x-y positioning platform;

a donor block holder for holding a tissue donor block in a donor position, the donor block holder being disposed on the x-y positioning platform;

a reciprocating punch positioned in relation to the donor block holder to punch a tissue specimen from the tissue donor block when the donor block is in the donor position;

a recipient block holder for holding a recipient block in a recipient position, wherein the recipient block comprises an array of receptacles, each of which is positionable in a preselected position in relation to the reciprocating punch to deliver a tissue specimen from the reciprocating punch into a receptacle in the preselected position, the recipient block holder being disposed on the x-y positioning platform;

a recorder for recording coordinate positions of the receptacles in the recipient block; and

z-direction positioning means for the reciprocating punch.